Met Office

NEWS

State-of-the-art underwater robots to play crucial role

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The National Oceanography Centre and the Met Office are collaborating to gather data which will improve the accuracy of weather forecasting and generate a better analyses of the state of the North Sea.

Cutting-edge underwater gliders, operated by engineers from National Oceanography Centre (NOC), navigate through the North Sea taking measurements, such as salinity and temperature, which are delivered to the Met Office in near real-time.

The project, which will operate for the next three years, aims to dramatically improve the collection and distribution of data from the North Sea.

The new temperature and salinity data will be fed daily into Met Office forecast models and is part of a wider programme to increase the amount of observational data for ingestion into models run on the new supercomputer and will support the continuous work by the Met Office to improve forecast accuracy.

NOC's specialist team of engineers have extensive experience in remotely operating gliders in challenging conditions and are able to provide the infrastructure for the Met Office to gather more accurate real-time ocean data.

Marine gliders. Credit: National Oceanography Centre.

Observations Network Manager at the Met Office, Jim Trice, said: “Understanding the relationship between the atmosphere and the ocean is key to improve understanding of weather and climate. This data has given us greater insight into vital aspects that form the weather systems that affect us every day.”

The NOC has partnered with the Met Office since the 1990’s, developing ocean models that underpin these developments in weather forecasting capability. The success over the last year has led the Met Office to recently extended the contract with NOC to provide these measurements for a further three years.

Speaking on the partnership Stephen Woodward, Engineering Manager, said: “The National Oceanography Centre excels in supplying innovative technology, which include our state-of-the-art gliders, to institutions like the Met Office. The gliders we are providing are capable of operating independently for long periods of time whilst their cutting-edge sensors excel at gathering crucial information about the state of our oceans.

“Securing a better understanding of ocean circulation and the data gathering potential of gliders is a key driving factor behind the project. It will be vital to inform future ocean modelling conditions and weather patterns, and, in time, this will support decision making in vital UK services, such as search and rescue, counter-pollution, and ocean biodiversity.”

Dr Charlotte Williams, Physical Oceanographer at NOC, concluded: “Over the next 3 years the NOC gliders will collect an unprecedented amount of data from the North Sea that will feed into Met Office forecasting simulations. This data will consist of what will be thousands of measurements of the temperature and salt content of the North Sea, important drivers in ocean-atmosphere interactions."

Marine glider entering the water. Credit: National Oceanography Centre

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